

CLAIMS

1. A method of automatically locating a table in a document, the method comprising the steps of:

5 defining a plurality of crops of the document;
for each crop of the document, determining the location of lines whose length is greater than or equal to a predetermined threshold value;
evaluating at least one parameter indicative of the density of said lines; and
deciding, based on said at least one evaluated parameter, which one of said plurality
10 of crops includes the location of said table.

2. The automatic table-locating method of claim 1, wherein the document is a technical drawing.

15 3. The automatic title-block locating method of claim 2, wherein said plurality of crops correspond to respective corners of the document.

4. The automatic table-locating method of claim 1, wherein:
the evaluating step includes defining groups of said lines, two or more adjacent lines
20 being allocated to a common group if a separation between adjacent ones of said two or more lines is less than a reference value; and
wherein the deciding step includes the step of evaluating at least one parameter of the groups of lines defined for the different crops.

25 5. The automatic table-locating method of claim 2, wherein:
the evaluating step includes defining groups of said lines, two or more adjacent lines being allocated to a common group if a separation between adjacent ones of said two or more lines is less than a reference value; and
wherein the deciding step includes the step of evaluating at least one parameter of the
30 groups of lines defined for the different crops.

6. The automatic table-locating method of claim 4, wherein the deciding step includes the steps of:

for each crop, evaluating the number of said lines in each group and performing a
35 validation test on the group;
for each crop, designating, as a representative group, the group having the greatest

number of lines and passing the validation test; and

selecting one of the crops as having the location of the table, the selected crop including the representative group having the greatest number of lines.

5 7. The automatic table-locating method of claim 6, wherein the performing step comprises the step of evaluating a distance of the group from a border on the document.

8. The automatic table-locating method of claim 6, wherein the performing step comprises the step of evaluating a separation between adjacent lines within the group.

10 9. The automatic table-locating method of claim 7, wherein the performing step comprises the step of evaluating a separation between adjacent lines within the group.

15 10. The automatic table-locating method of claim 7, further comprising the step of evaluating a sum of thicknesses of said lines for each crop; and wherein, in the event that there is no crop having a representative group with the greatest number of lines, the deciding step includes the steps of:

20 determining whether there is a crop having an evaluated thickness sum that is significantly greater than a corresponding evaluated thickness sum for the other crops; and
 if so, designating that crop as the location of the table and, if not, generating a signal indicative of failure to locate the table.

25 11. The automatic table-locating method of claim 8, further comprising the step of evaluating a sum of thicknesses of said lines for each crop; and wherein, in the event that there is no crop having a representative group with the greatest number of lines, the deciding step includes the steps of:

30 determining whether there is a crop having an evaluated thickness sum that is significantly greater than a corresponding evaluated thickness sum for the other crops; and
 if so, designating that crop as the location of the table and, if not, generating a signal indicative of failure to locate the table.

12. The automatic table-locating method of claim 1, further comprising a preliminary step of verifying the format of the document to be analysed.

35 13. The automatic table-locating method of claim 1, further comprising the step of determining the location of a frame present on the document and defining a border on the

document.

14. The automatic table-locating method of claim 1, wherein the document is an image of a document produced at a reduced resolution.

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15. The automatic table-locating method of claim 1, wherein the document is a scanned image of a document, and the method further comprises the step of deskewing the scanned image before applying the method.

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16. Apparatus for automatically locating a table in a document by application of the method according to claim 1.

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